

<b>Notice of Allowability</b>	Application No.	Applicant(s)	
	10/075,049	TRENARY ET AL.	
	Examiner	Art Unit	
	Wes Tucker	2624	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 6-26-06.
2. ☒ The allowed claim(s) is/are 1-8, 10-38 and 40-47.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

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|---|--|
| <ol style="list-style-type: none"> <li>1. <input type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br/>Paper No./Mail Date _____</li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br/>of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</li> <li>6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date <u>7-10-06</u> .</li> <li>7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other _____.</li> </ol> |
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## **DETAILED ACTION**

### ***Response to Amendment***

1. Applicant's amendment filed June 26<sup>th</sup> 2006 has been entered and made of record.
2. Applicant has amended claims 1, 8, 11, 18, 25, 31 and 38. Claims 9 and 39 have been cancelled. Claims 1-8, 10-38 and 40-47 are currently pending.
3. Applicants remarks in view of the newly presented amendments are partially persuasive. The previously presented 101 and 112 issues were still present in the claims as filed with the amendment. Examiner contacted Applicant in a telephone interview conducted on Monday July 10<sup>th</sup> to discuss a possible Examiner's amendment. Applicant agreed to the amendment and the 101 and 112 issues are now overcome in view of the Examiner's amendment. The discussion of that interview in regard to the 112 and 101 issues are hereby presented below for both Applicant's convenience and in order to make the record complete.
4. The following was faxed to David Victor Reg. No. 39,867 in order to explain the proposed Examiner's amendment:

***Claim Rejections - 35 USC § 101***

*The following is an explanation of remaining 101 issues with Application Number 10/075,049. This explanation is submitted with regard the telephone interview with David Victor Reg. No. 39,867 on July 7, 2006.*

*35 U.S.C. 101 reads as follows:*

*Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.*

*The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Section IV.C, reads as follows:*

*While abstract ideas, natural phenomena, and laws of nature are not eligible for patenting, methods and products employing abstract ideas, natural phenomena, and laws of nature to perform a real-world function may well be. In evaluating whether a claim meets the requirements of section 101, the claim must be considered as a whole to determine whether it is for a particular application of an abstract idea, natural phenomenon, or law of nature, rather than for the abstract idea, natural phenomenon, or law of nature itself.*

*For claims including such excluded subject matter to be eligible, the claim must be for a practical application of the abstract idea, law of nature, or natural phenomenon. Diehr, 450 U.S. at 187, 209 USPQ at 8 ("application of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection."); Benson, 409 U.S. at 71, 175 USPQ at 676 (rejecting formula claim because it "has no substantial practical application").*

*To satisfy section 101 requirements, the claim must be for a practical application of the Sec. 101 judicial exception, which can be identified in various ways:*

*The claimed invention "transforms" an article or physical object to a different state or thing.*

*The claimed invention otherwise produces a useful, concrete and tangible result, based on the factors discussed below.*

*Claims 1, 18 and 31 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claims 1, 18 and 31 recite a judicial exception to 35 U.S.C. 101, in the form of a mathematical algorithm. The claimed algorithm merely manipulates abstract data by solving a mathematical algorithm without a limitation to a practical application.*

*A practical application exists if the result of the claimed invention is “useful, concrete and tangible” (with the emphasis on “result”)(Guidelines, section IV.C.2.b). A “useful” result is one that satisfies the utility requirement of section 101, a “concrete” result is one that is “repeatable” or “predictable”, and a “tangible” result is one that is “real”, or “real-world”, as opposed to “abstract” (Guidelines, section IV.C.2.b)).*

*Claims 1, 18 and 31 merely manipulates data without ever producing a useful, concrete and tangible result. It is clear that the claims recite transforming data with a shift matrix, but it is unclear from the context of the claim what that data represents. The “result” of the claimed invention is nothing more than shifted data. Shifted and/or transformed data does not constitute a useful, tangible result unless the data represents something more than data. For example, the full scope of the claim covers the manipulation of any type of data, and there would be no express, implicit or inherent practical application to shifted data representing, e.g., white noise.*

*Looking at applicant’s disclosed invention, it is apparent that the transformed data is in the environment of image processing from both the specification and from claim 2, and a practical application does exist for shifting image data in the manner claimed (e.g., shifting pixel arrays to better fit a display or output space). However, in order for the claimed invention to be statutory (i.e., not falling purely within a judicial exception), a transformed image must be explicitly named in the body of the independent claims 1, 18 and 31 to make the subject matter statutory and producing a useful concrete and tangible result.*

*A suggestion to overcome this 101 issue would be to amend the claim to read "image data" everywhere "data" appears. This would give a practical application to the mathematical algorithm.*

*In order to for the claimed product to produce a "useful, concrete and tangible" result, recitation of one or more of the following elements is suggested:*

- The manipulation of data that represents a physical object or activity transformed from outside the computer.*
- A physical transformations outside the computer, for example in the form of pre or post computer processing activity.*
- A direct recitation of a practical application;*

*Applicant is also advised to provide a written explanation of how and why the claimed invention (either as currently recited or as amended) produces a useful, concrete and tangible result.*

#### **EXAMINER'S AMENDMENT**

5. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with David Victor Reg. No. 39,867 on Monday July 10, 2006.

The application has been amended as follows:

With regard to independent claims 1, 18, and 31, the claims should be amended so that every time the word "data" appears, it reads "image data." So "image" should be placed before each instance of the word "data." Please amend the claims accordingly.

***Allowable Subject Matter***

6. Claims 1-8, 10-38 and 40-47 are allowed.

The following is an examiner's statement of reasons for allowance:

In view of the amended independent claims and the above presented discussion of the Examiner's amendment to overcome the 101 and 112 enablement issues, the subject matter is further found allowable over the prior art of record.

U.S. Patent 6,452,96 to Yim discloses shift transform matrices capable of fractionally shifting image data, but Yim does not disclose the specific formulas and calculations of the transform matrix  $H_k$  and the matrices A, B, C and G as recited in the newly amended claims. None of the found prior art of record discloses such calculations. The newly amended independent claims are therefore found to be allowable and accordingly all of the subsequent dependent claims are also allowable.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."



***Contact Information***

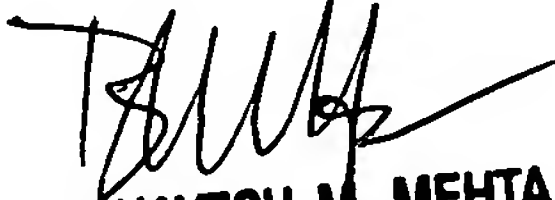
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wes Tucker whose telephone number is 571-272-7427. The examiner can normally be reached on 9AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 571-272-2214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Wes Tucker

7-10-06

  
**BHAVESH M. MEHTA**  
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